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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/657,046 | 09/05/2003 | Warren D. Smith | 14808 Z | 1098 |
| 23389 | 7590 | 02/09/2006 | EXAMINER | |
| SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530 | | | WALSH, DANIEL I | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2876 | |

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/657,046 | Applicant(s) SMITH ET AL. | |
| | Examiner Daniel I. Walsh | Art Unit 2876 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9-03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Receipt is acknowledged of the IDS received on 5 September 2003.
2. This application is in condition for allowance except for the following formal matters:

Claim Objections

3. Claims 5 and 6 are objected to because of the following informalities:

Re claim 5: Replace "claim 3" with – claim 4 --.

Re claim 6: Replace "is have on" with – have one –

Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte*
Quayle, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS**
from the mailing date of this letter.

Allowable Subject Matter

4. Claims 1-28 are allowed.
5. The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach or fairly suggest to one of ordinary skill in the art, in conjunction with all the other

limitations of the subject claims and any claims on which the subject claims depend: a system for mapping a surface comprising a vector representation of the order of the bars, supplemented by a value representing an additional bar, is mutually orthogonal to any circular shift of the order supplemented by a value representing an additional bar (as per claim 1), a method of mapping a surface comprising shifting the barcode over the surface a number of times equal to one less than the number of bars comprising the bar code (as per claim 7), a bar code pattern for mapping a surface wherein a vector representation of the order of the bars, supplemented by a value representing an additional bar, is mutually orthogonal to any circular shift of the order supplemented by a value representing an additional bar (as per claim 13), an apparatus for mapping a surface wherein a vector representation of the order of the bars, supplemented by a value representing an additional bar, is mutually orthogonal to any circular shift of the order supplemented by a value representing an additional bar (as per claim 20), a method of mapping a surface wherein a vector representation of the order of the bars, supplemented by a value representing an additional bar, is mutually orthogonal to any circular shift of the order supplemented by a value representing an additional bar (as per claim 22), an apparatus for generating a bar code pattern for mapping a surface wherein a vector representation of the order of light and bar bars, supplemented by a value representing dark bar, is mutually orthogonal to any circular shift of the order supplemented by a value representing a dark bar (re claim 24), a processor for mapping a surface comprising means for determining corresponding between each pixel of image data representing a plurality of images and one or more portions of a predetermined structure light comprising means for calculating the inner product of a time series vector for each pixel of the image data and a time series fingerprint of each portion of the

predetermined structured light and means for calculating a position of the surface, source of the structured light, and source of the series of images (as per claim 28).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

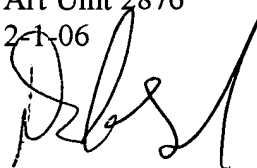
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Soga et al. (US 2005/0088656), Neal et al. (US 2004/0263783), Nayar et al. (US 6,229,913), Rudy et al. (US 2005/0197587), Yoshida (US 2004/0246496), Kriesel (US 2004/0032974), Rubbert et al. (US 6,744,932 and US 6,728,423), Gelphman (US 6,556,783), Kobayahshi et al. (US 6,291,817), Di Matteo et al. (US 4,335,962), Gordon et al. (US 5,621,529), Rosenfeld (US 4,668,984), Abe (US 2004/0246495), Hallerman et al. (US 2002/0018219), Ellis (US 6,549,289), Hallerman et al. (US 6,262,803), Hermary et al. (US 5,986,745), Tamuar 9US 4,653,104), Ross et al. (US 4,634,278), Kuchel et al. (US 5,135,309), and Rubbert (US 6,495,848).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel I. Walsh whose telephone number is (571) 272-2409. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel I Walsh
Examiner
Art Unit 2876
2-1-06

A handwritten signature in black ink, appearing to be 'D. Walsh', written over the printed name and date.